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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,074	05/22/2006	Bernd Schultheis	VO-752	9525
42419 7590 09/20/2007 PAULEY PETERSEN & ERICKSON 2800 WEST HIGGINS ROAD SUITE 365 HOFFMAN ESTATES, IL 60195			EXAMINER VAJDA, PETER L	
			ART UNIT 1756	PAPER NUMBER
			MAIL DATE 09/20/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/580,074	SCHULTHEIS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Peter L. Vajda	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/10/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claims 1, 3-5, 7, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the claims indicated above recites a numerical range and then states, "in particular" and then recites a further narrowed range. It is unclear which range the applicant is claiming and only one range may be selected per claim.

Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicant has written that the toner contains "an oxidation as additives." It is believed that the applicant means "an oxidation agent as additives." Correction and/or clarification is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 03/058351 in view of Vianco *et al.* (US Patent 5516612).

WO 03/058351 (hereafter WO '351) teach a ceramic toner that comprises a binder resin, color pigment particles, and glass flow particles for use on a glass, glass ceramic, or ceramic substrate. The toner is provided with a thermoplastic synthetic matrix which melts in a homogeneous manner in a temperature range of 100 to 400 C, preferably 300-500 C and which vaporizes in an almost residue-free manner in order to obtain a toner which can be transferred with almost no synthetic matrix residue after firing (Abstract). Furthermore, the toner contains glass flow particles from a specific glass frit in the range of 30-80 wt. %, inorganic pigments in the range of 0-20 wt. %, and a plastic matrix in the range of 20 – 60 wt. % (p. 2 ln. 24-28). WO '351 does not teach the inclusion of magnetic materials and since the inventors teach that the glass matrix comprise 20-60 wt. % it is clear that the toner may contain greater than 30 to 80 wt. % foreign substances (wherein foreign substances comprises glass flow particles, pigment particles, and charge control agents). The particle size of the toner particles is taught to be between 1 and 10 micrometers (D50 Vol.) (p. 11 ln. 4-7). The toner further comprises oxidation means as additives (p. 5 ln. 12-15). The plastic matrix may be comprised of styrene and acrylate based polymers as well as polyvinyl alcohol and other polymers listed by the applicant in pending claims 9 and 10 (p. 4 ln. 14- p. 5 ln. 10). The toner may also be coated with auxiliary materials to aid flow, such in an

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amount of from 0 to 1.0 wt. % (p. 5 ln. 17-25). The toners further have an irregular shape and are only partially enclosed by the plastic matrix (p. 11 ln. 19-27). The foregoing material may also be a gemstone (p. 11 ln. 9-12). Furthermore, the toner also peroxides or azo compounds with decomposition temperatures of greater than 150 C are provided for breaking down the polymers (p. 15 claim 11). WO '351 also teaches that the toner is applied to a transfer medium which is made of gum-arabic (Claim 12, p. 16). The inventors of WO '351 do not teach that the toners contain a wax or charge control agent or have a specific charge of greater than 25 micro C/g.

Vianco *et al.* teach a toner with an enhanced tribo product longevity comprising a resin, pigment, charge additive, charge control agent and other additives (Abstract). Furthermore, by using Kraton charge control agent retention additives in addition to charge control agents, they showed that extreme tribo product stability could be achieved (Col. 7 ln. 29-56). Furthermore, these charge control additives result in a toner with tribo charges from 31.9 to 38.2 (Col. 7, Table 1). Vianco *et al.* also teach that the use of charge control agents and retention additives greatly enhances developer life times and image quality performance (Col. 6 ln. 3-6). Charge control agents are taught to be preferably used in an amount of 1 to about 5 weight percent of the toner (Col. 11 ln. 58-61). Vianco *et al.* further teaches that the use of a wax in an amount of from 3 to 7 percent by weight imparts enhanced release of paper after fusing, improved cleaning functions of an imaging apparatus, and provides the fused toner image with lubrication (Col. 11 ln. 1-12).

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Therefore, in light of these two inventions, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have constructed the toner of WO '351 to include the charge control agents, charge control retentive agents, and the wax taught by Vianco *et al.* This would have imparted the toner of WO '351 with excellent tribo stability, enhanced developer life, improved image quality, enhanced releasing properties, enhanced cleaning properties, and lubrication for the fused toner image. These modifications would have certainly improved upon the toner of WO '351. Furthermore, since the use of charge control additives and waxes in toners is very wide known, it would have been obvious to one of ordinary skill in the art to have contemplated their addition to the toner of WO '351 and the teachings of Vianco *et al.* would have provided ample guidance for improvements in these respects over the toners of WO '351. It should be noted that US Patent 7018760 is an equivalent document to WO 03/058351, which is published in German.

### ***Conclusion***

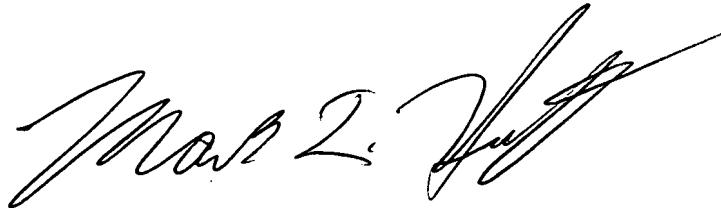
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Vajda whose telephone number is 571-272-7150. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PLV/ 09/12/2007

A handwritten signature in black ink, appearing to read "Mark E. Huff", with a stylized flourish at the end.

MARK E. HUFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700